

## REMARKS

### **I. Introduction**

Claims 10 to 21 are pending in the present application. In view of the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II. Rejection of Claims 10 to 12, 14, 15, 20, and 21 Under 35 U.S.C. § 103(a)**

Claims 10 to 12, 14, 15, 20, and 21 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 6,299,051 (“Tsujino”) and U.S. Patent No. 6,326,717 (“Mattes”). It is respectfully submitted that the combination of Tsujino and Mattes does not render unpatentable the presently pending claims for at least the following reasons.

Claim 10 relates to a friction-welding device for integrally joining components, each component including a welding surface, including, *inter alia*, the features of an oscillator, a compression device, and *a cartridge adapted to accommodate the one of the components outside of a welding zone*, in which *the oscillator includes an even number of piezoactuators arranged in pairs at least approximately on a line of application*.

The combination of Tsujino and Mattes does not disclose, or even suggest, all of the features included in claim 10. For example, Tsujino merely indicates a sealing cap 1 and a substrate 2 between a base 9 and a bonding head 4. (Tsujino, col. 3, lines 30 to 50; and Figures 1 and 2). However, nowhere does Tsujino disclose a cartridge adapted to accommodate the one of the components outside of a welding zone. Nonetheless, the Final Office Action at pages 5 to 6 asserts that bonding head 4 constitutes a cartridge accommodating the one of the components. In this regard, Tsujino plainly states that “the bonding head 4 is placed on the upper face 1b of the sealing cap 1.” (Tsujino, col. 3, lines 55 to 56). Thus, the bonding head 4 of Tsujino merely applies compressive force F on the upper face 1b of the sealing cap 1, and does not constitute a cartridge accommodating the one of the components. Therefore, Tsujino does not disclose, or even suggest, the feature of *a cartridge adapted to accommodate a component outside of a welding zone*, as provided for in the context of claim 10. Further, Mattes also does not disclose, or even suggest, the feature of *a cartridge adapted to accommodate a component outside of a welding zone*, and thus, fails to cure this critical deficiency.

In addition, nowhere does Tsujino disclose the oscillator includes an even number of piezoactuators arranged in pairs at least approximately on a line of application. Instead, Tsujino merely indicates piezoelectric transducers 7,8 coupled to oscillation transmitting hones 5,6 “that are in an orthogonal direction to the welding head 4.” (Tsujino, col. 3, lines 37 to 42; and Figure 1). Thus, the piezoelectric transducers 7, 8 are situated orthogonal to each other, and not in pairs at least approximately on a line of application. Therefore, Tsujino does not disclose, or even suggest, the feature of *the oscillator includes an even number of piezoactuators arranged in pairs at least approximately on a line of application*, as provided for in the context of claim 10. Further, Mattes also does not disclose, or even suggest, the feature that *an oscillator includes an even number of piezoactuators arranged in pairs at least approximately on a line of application*, and thus, fails to cure this critical deficiency.

Accordingly, it is respectfully submitted that the combination of Tsujino and Mattes does not disclose, or even suggest, all of the features included in claim 10. Therefore, it is respectfully submitted that the combination of Tsujino and Mattes does not render unpatentable the presently pending claims for at least the foregoing reasons.

As for claims 11, 12, 14, 15, 20, and 21, which depend from claim 10 and therefore include all of the features included in claim 10, it is respectfully submitted that the combination of Tsujino and Mattes does not render unpatentable these dependent claims for at least the reasons more fully set forth above.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claim 13 Under 35 U.S.C. § 103(a)**

Claim 13 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Tsujino, Mattes, U.S. Patent No. 6,617,766 (“Stoecklein et al.”), and U.S. Patent Application Publication No. 2003/0086748 (“Culpepper”). It is respectfully submitted that the combination of Tsujino, Mattes, Stoecklein et al., and Culpepper does not render unpatentable the present claim for at least the following reasons.

Claim 13 depends from claim 10. As more fully set forth above, the combination of Tsujino and Mattes does not disclose, or even suggest, the features

*of a cartridge adapted to accommodate components outside of a welding zone and an oscillator that includes an even number of piezoactuators arranged in pairs at least approximately on a line of application, as provided for in the context of claim 10.* Stoecklein et al. and Culpepper also do not disclose, or even suggest, the features of a *cartridge adapted to accommodate components outside of a welding zone and an oscillator that includes an even number of piezoactuators arranged in pairs at least approximately on a line of application*, and thus, fail to cure these critical deficiencies.

Accordingly, it is respectfully submitted that the combination of Tsujino, Mattes, Stoecklein et al., and Culpepper does not disclose, or even suggest, all of the features included in claim 10, from which claim 13 depends. As such, it is respectfully submitted that the combination of Tsujino, Mattes, Stoecklein et al., and Culpepper does not render unpatentable claim 13, which depends from claim 10.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

#### **IV. Allowable Claims 16 and 18**

Applicants note with appreciation the allowance of claims 16 and 18.

#### **V. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

Date: February 10, 2009

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